

CLARREO 2015 Directions Discussion

NRC Continuity Study OSTP Earth Observation Assessment

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NRC Continuity Study

- Draft report has been reviewed and is completing revision and response to reviewers
- Likely released this summer
- 17 committee members, 6 from CESAS, the same committee that oversees the NRC Decadal Survey
- Task is to provide NASA with improved methods to consider the benefits vs costs of continuity in satellite observations of Earth, and thereby can support more objective and transparent decisions and priorities

NRC Continuity Study

- Considers both qualitative and quantitative measures
- Gives examples of applying the approaches suggested, but does not provide a full prioritization of continuity for all NASA observations: this is beyond the scope of the report
- Suggests further studies that could provide more quantitative and less qualitative measures of benefits and risks.
- Will provide a very useful input to the Decadal Survey

NRC Continuity Study

- While report focused on continuity for science, methods could be applied to applications as well
- Examples are focused on climate observations, the largest continuity issue for NASA (e.g. RBI, GRACE follow on, ICESAT2, PACE, Ocean Altimetry)
- Methods suggested in the report could also be modified to prioritize single research missions instead of long term continuity, but this was not done in the report.

OSTP Earth Observation Assessment

- Second EOA (first released July 2014)
 - See the OSTP “National Plan for Civil Earth Observations”
- 2 year process to update
- Mandated by Congress to be revised every 3 years
- 13 Societal Benefit Areas

OSTP Earth Observation Assessment

- **Agriculture and Forestry**
- **Biodiversity**
- **Climate:** *Understanding, assessing, predicting, mitigating, and adapting to climate variability and related global change*
- **Disasters**
- **Ecosystems (Terrestrial and Freshwater)**
- **Energy and Mineral Resources**
- **Human Health**

OSTP Earth Observation Assessment

- **Ocean and Coastal Resources and Ecosystems**
- **Space Weather**
- **Transportation**
- **Water Resources**
- **Weather**
- **Reference Measurements:** *Improving reference measurements—the underpinnings of all the SBAs—such as geodesy, bathymetry, topography, geolocation, and the fundamental measurement systems and standards supporting them*

OSTP Earth Observation Assessment

- First report was a simple “check the box” exercise on Earth observations
 - Only prioritization was “how many boxes were checked”
 - Nothing quantitative
 - More about understanding the broad scope of Earth observations
- Second report hopes to improve the depth of understanding
 - For each Societal Benefit Area
 - Define Key Objectives and prioritize (qualitative)
 - For each Key Objective define Key Products, Services and Outcomes and prioritize
 - No prioritization between Societal Benefit Areas

OSTP Earth Observation Assessment

- EOA-2 just getting underway in last few months
- Most of the Societal Benefit Areas are applications and not research: Climate is the exception
- First step underway is definition of Key Objectives (KOs)
 - For each KO: identify Key Products, Services, and Outcomes (KPSOs)
 - For each KPSO: identify Subject Matter Experts

OSTP Earth Observation Assessment

- Second step is to prioritize Key Objectives in each Societal Benefit Area, and Key Products in each Objective
- Not clear that there will be any objective quantification of objectives or products: just subjective judgement of relative value, where total value is 100 points.
 - Not ideal, but will be a substantial advance over EOA-1
- Third step will be for the OSTP assessment team to interview the Subject Matter Experts and gather further information about the KPSOs, gaps, etc.

OSTP Earth Observation Assessment

- No direct connection between the EOA report schedule/timing and the Decadal Survey
- EOA is much broader than the Decadal Survey: includes all surface, aircraft, and space-borne Earth observing systems
- Not clear that the EOA report schedule and timing will help the Decadal Survey.
- Decadal Survey likely to be dominated by Science. EOA will be dominated by Applications.

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